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Title : **EO Exploitation Platform Common Architecture – Release Plan**

Abstract : This plan describes the plan for releases of documentation and software for the EO Exploitation Platform Common Architecture project.

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AMENDMENT POLICY

This document shall be amended by releasing a new edition of the document in its entirety. The Amendment Record Sheet below records the history and issue status of this document.

AMENDMENT RECORD SHEET

ISSUE	DATE	DCI No	REASON
1.0	07/12/2018	N/A	Initial Issue
1.1	02/08/2019	N/A	Updated for new schedule.

1. INTRODUCTION

1.1 Purpose and Scope

The Release Plan details the approach and schedule to the public release of the project documentation and the release of the system software.

2. DOCUMENTS

2.1 Applicable Documents

The following documents are applicable to this plan. Where referenced in the text, these are identified as AD.n, where 'n' is the number in the list below:

[AD-1] Use Case Analysis Document (UCAD), EOEPCA-TN-005, Issue 1.0
https://eoepca.github.io/use-case-analysis/

[AD-2] Master System Design Document (MSDD), EOEPCA-SDD-001, Issue 1.0
https://eoepca.github.io/master-system-design/

[AD-3] Configuration Management Plan, EOEPCA-PLN-003, Issue 2.0

3. DOCUMENTATION

The key public documentation deliverables include the Use Case Analysis Document (**UCAD**), Master Interface Control Document (**MICD**) and the Master System Design Document (**MSDD**), which describe the common architecture approach to be adopted within the community. Due to the iterative nature of the project, it is expected that these documents will be very regularly and iteratively reviewed throughout the duration of the project. These reviews will be managed via the Community Liaisons roles as part of the Community Management activity.

A first draft of the UCAD and MSDD will be released at KO + 5 months to receive initial feedback from the community. This feedback will be accommodated before the documents are released into the ITT pack for the procurement of the domain area experts. The MSICD will be issued and updated by the DevOps team.

Subsequently, the technical documentation will be up-issued and published with each software release of the Reference Implementation.

4. SOFTWARE RELEASE PLAN

The software will be developed using an agile process with an automated continuous delivery DevOps approach. The development team will maintain a test deployment of the development tip in their own dedicated Integration & Test environment.

The deployment of software releases to the live operational system will be made under the direction of the Operators as described in section 5, with candidate releases being staged for validation as a gateway before live deployment.

A three monthly release cycle will be scheduled as follows:

- **Phase 1**
  Release 0.1: SKO + 3 months
  Release 0.2: SKO + 6 months
  Release 0.3: SKO + 9 months
  Release 1.0: SKO + 12 months
- **Phase 2**
  Release 1.1: SKO + 16 months
  Release 1.2: SKO + 19 months
  Release 1.3: SKO + 22 months
  Release 2.0: SKO + 25 months

Where SKO is Subcontractor Kick Off (**SKO**).

The development process will follow the agile model in which feature goals will be set for each targeted release. This feature planning would be based upon analysis of the use-cases, analysis/evaluation of state-of-the-art technologies and engagement with the community to establish consensus and future direction.

For phase 1, the approach will be to release the Minimum Viable Product as an Alpha release (v0.1), to obtain early feedback from users. From this point, the Reference Implementation will be iterated and grown through Beta (v0.2), and then release candidate(s) leading to the first formal release at v1.0.

In accordance with the use-cases [AD-1] and the master system design [AD-2] a release roadmap has been defined in prioritised order for each domain area.

User Management Feature Priorities

- Evaluation and selection of OIDC Provider for authentication
- Integration with external Identity Provider #1, e.g. EduGain or GitHub
- User registration
- Logon: External federated authentication and local access token allocation
- Logoff (token invalidation)
- Policy Enforcement Point: filter resource access to enforce (redirect) logon
- Evaluation and selection of Policy Decision Point
- Authorization engine with policy, rules, attributes definition
- Policy Enforcement Point: filter resource access based on PDP decision
- Integration with external Identity Provider #2, #3, etc.
- Recording of accounting events for user resource usage
- Delegated access: Trusted federated user identification at ‘other’ platform
- Delegated access: Federated user authorization at ‘other’ platform

- Delegated access: Access to resource at 'other' platform with associated usage accounting
- GDPR registration, definition of roles and scope
- Local end-user de-registration. GDPR "right to be forgotten"
- Operator registration
- Log Management for audit trail across IdP and sample website
- Operator dashboard for management of user logon/registration
- Commercial users: register billing details
- Commercial users: register payment details
- Integration of accounting/invoicing (accounts receivable)
- Billing and Payment Preferences

Resource Management Feature Priorities

- Datasets in local storage and manually added to catalogue by administrator
- Marketplace supports textual search for dataset
- Marketplace supports facetted search for dataset
- Marketplace supports direct download of data
- Data owners configure access restrictions and access costs
- Data can be accessed in accordance with access controls
- Marketplace supports textual search for processing service
- Marketplace supports facetted search for processing service
- Data access services/library facilitating processor data input/output
- Data access integration with infrastructure #1, e.g. DIASx5
- Data access integration with infrastructure #2, e.g. AWS
- Federation of resource catalogue metadata
- Discovery of resources through federated search
- Data can be visualised with parameterised in-browser viewer
- Processing results can be visualised with parameterised in-browser viewer
- Discovered data can be added to the users workspace
- Users can upload data to their workspace
- Data can be accessed with associated accounting of usage events
- Supporting documentation can be linked to catalogued resources
- Data access integration with infrastructure #3, #4, etc.
- User publishes uploaded data from their workspace
- Processing results are published with supporting provenance, attribution and linked documents.
- DOI can be minted for data published in the platform catalogue
- Programmatic Web API providing resource management functions (discovery, download)

Processing & Chaining Feature Priorities

- Platform built-in processing services are available for execution, having been manually added to the catalogue by administrator
- Processing service invoked with discovered data
- Processing service provider configures access restrictions and usage costs
- Processing service usage is subject to access controls
- Status monitoring of current/past processing jobs

- Users can add their own processing services to their workspace and optionally publish them in the resource catalogue
- Users can define workflows to chain processing functions and publish them in the resource catalogue
- Processing service invoked with data in user's workspace
- User publishes processing results from their workspace
- Processing service invoked with data discovered from federated platform
- Federation of processing services in the resource catalogue
- Discovery of processing services through federated search
- Execution of workflows with data inputs and processing services federated from other systems
- Processing results can be visualised with parameterised in-browser viewer
- Processing results are published with supporting provenance, attribution and linked documents.
- Processing service usage accounting
- Bulk processing jobs can be defined and executed
- Bulk processing jobs can be monitored, results obtained and published to the resource catalogue
- Bulk processing job execution costs are estimated before execution
- Systematic processing jobs can be defined and executed
- Systematic processing jobs can be monitored, results obtained and published to the resource catalogue
- Systematic processing job execution costs are estimated before execution
- Processing service is executed with accounting for associated costs
- Web-based workflow definition and execution environment to facilitate the user in creating workflows
- Processing job execution costs are estimated before execution
- Integration of Interactive Analysis Tool
- Processing services as Interactive Applications are supported
- Web-based processor development environment allows users to build/test/debug/deploy/publish their own processing services
- Programmatic Web API providing ability to invoke processing services and obtain results.

5. SOFTWARE RELEASE AND DEPLOYMENT

The system will be developed following the principals of DevOps and in accordance with [AD-3]. The DevOps pipelines provide an automated build, test, release, delivery approach that stops short of automated operational deployment.

The Operators will take responsibility for managing a deployment of the reference implementation onto their operational platform.

It is anticipated that the Operators will maintain a staging environment in which candidate releases are subject to a validation gateway. The Operators will trigger the CI/CD pipeline to deploy specific component versions (build artefacts) to their staging area. Once the candidate release has been proven in accordance with the defined validation approach, then the Operators will initiate the deployment to their live operational system.

6. GLOSSARY

The following acronyms and abbreviations have been used in this report.

AD	Applicable Document
MICD	Master Interface Control Document
MSDD	Master System Design Document
SKO	Subcontractor Kick Off
UCAD	Use Case Analysis Document

End of Document